Water Conservation

Product Technology That Can Make a Difference

Aug 27th, 2004

Water Conservation Assumptions

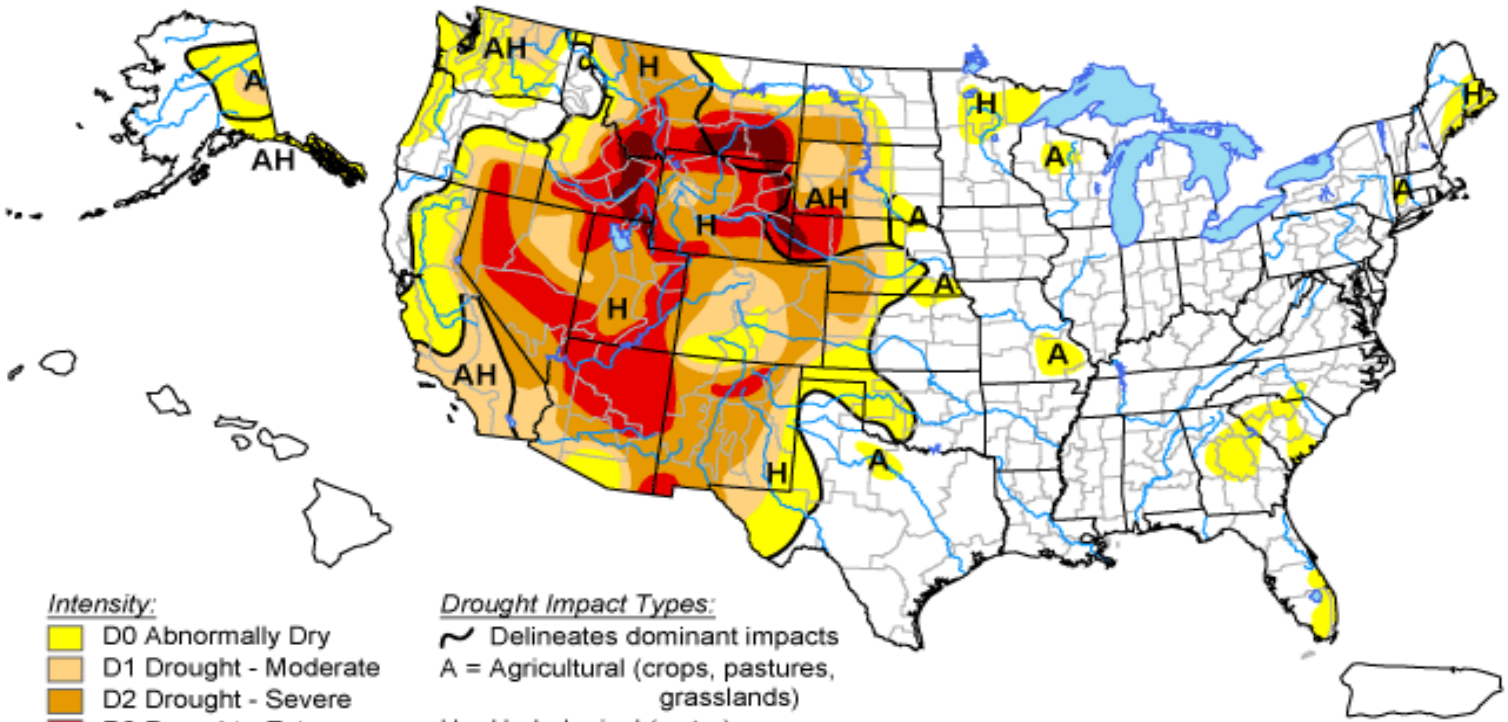
- Water is cheap
- There's plenty of it
- Measures to save water cost more money

Challenge Assumptions

- Water and sewer costs are on the rise all across the country
- Effecting the bottom-line in new and more substantial ways
- Water is a finite resource
- Population growth far surpasses water cycle recharge.

U.S. Drought Monitor

July 20, 2004
Valid 8 a.m. EDT



Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Drought Impact Types:
- ~ Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)
- (No type = Both impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

USDA National Drought Mitigation Center

Released Thursday, July 22, 2004

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Challenge Assumptions

- Conserving water can save significant dollars
- Water conserving technology is available today at or about the same cost as standard fittings and fixtures
- Saving water makes good sense both financially and environmentally

Some Ways To Save

- The 1992 Energy act went a long way to set some limits for water use.
- Today's new technology can surpass those requirements - save water, without sacrificing performance.
- New technology integrates in the same way as standard fixtures

One Gallon Toilets and Dual Flush Technology

- Super High Efficient Fixtures
- High Performance
- One Gallon Pressure Assist perform better than many 1.6 gravity fixtures*

*According to Recent Maximum Performance Testing results conducted by Veritec Consulting

0.5 Gallons per flush Urinals

- Each Urinal Saves 50% more water than the 92' Energy Act requirements
- Technology available today at no additional cost to standard urinals

Sensor Controlled Faucets

- Reduce water consumption, improve hygiene
- Some newer technology's have self generating power supplies
- Hydro Turbine Generation and Solar Power
- Save up to 70% more water than with traditional manual faucets

Waterfree Urinals

- 100% Water Savings
- Improved Hygiene with dry fixture environment
- Odor free
- Easily retrofits to existing bathrooms

Water Efficiency and the LEED Rating System

- 5 possible points
  - 2 landscaping points
  - 1 wastewater innovation point
  - 2 indoor water use points

Water Efficiency Credits – Indoor Water Use

Credit 2 Innovative Wastewater Technologies

Intent:

Reduce generation of wastewater and potable water demand, while increasing the local aquifer recharge.

Requirement:

Reduce the use of municipally provided potable water for building sewage conveyance by a minimum of 50%, or treat

100% of wastewater on site to tertiary standards.

Potential Technologies & Strategies

Specify high-efficiency fixtures and dry fixtures such as composting toilets and **waterless urinals** to reduce wastewater volumes. Consider reusing stormwater or greywater for sewage conveyance or on-site wastewater treatment systems (Mechanical and/or natural)

Water Use Reduction

Credit 3.1 and 3.2

- 20% reduction (credit 3.1)
- 30% reduction (credit 3.2)

Intent

Credit 3.1 & 3.2 Water Use Reduction

Intent:
Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems

Requirement

Employ strategies that in aggregate use 20% (or 30%) less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements.

Potential Technologies & Strategies

Estimate the potable and non-potable water needs for the building. Use **high-efficiency fixtures**, **dry fixtures such as composting toilets and waterless urinals**, and **occupant sensors** to reduce the potable water demand. Consider reuse stormwater and greywater for non-potable applications…

The drops add up…

- By utilizing one or more of these new technologies, real savings can be reached.
- Savings of both water and dollars - without sacrificing performance.

Summary…

- No up front costs using water saving technology
- The technology is available today
- Water saving fixtures do not sacrifice performance